

REMARKS

Reconsideration and allowance of this application in light of the foregoing amendments and accompanying remarks is respectfully requested.

THE CLAIM AMENDMENTS

Independent claims 28, 48, and 49 have been amended to more particularly set forth the aspects of the invention.

Support for the claim amendments is found in the specification and drawings of the application as originally filed.

THE REJECTION OF CLAIMS 28-55 IS OVERCOME

Claims 28-55 were rejected under 35 U.S.C. §102(b or e) as anticipated by or, in the alternative, under 35 U.S.C. §103(a) as being obvious over the U.S. Patent or Publication Nos. 5,917,549 (to Wood), 6,148,996 (to Morini), 2002/0096440 (to Kasuya), or 6,152,296 (to Shih).

It is believed that when the present invention and the cited references are properly understood, it will become evident (as shown in the following discussion) that the teachings of these references, either alone or in combination, do not disclose or suggest the novel apparatus of the present invention as set forth in the claims as now amended.

--Independent Article Claim 28 And Its Dependent Claims 29-47 Are Allowable

As amended, claim 28 requires, inter alia, the following:

a movable projection (e.g., in the illustrated preferred embodiment, the projection includes the structure of the movable arm 34 and associated cutter 32 connected with the hinge 30 to the flange 28) at a receptacle opening;

a lid (e.g., lid 12, 50, 54) including a compartment (e.g., compartment 20) positionable at the receptacle opening when the lid (12, 50, 54) is attached to the receptacle; and

an engagement means (e.g., rib 24 on the exterior of the lid compartment 20 just above the compartment rim 22 as seen in FIGS. 1C and 5A) associated with, and projecting with respect to, the lid (12, 50, 54) such that as the lid is moved (e.g., rotated), the engagement means (e.g., rib 24) moves into contact with, and acts on, the projection (e.g., the structure incorporating the cutter system 34, 32, 30, 28) such that the projection itself is moved into a position whereby it opens the compartment (e.g., in the preferred embodiment, movement of the arm 34 pivots the cutter 32 into the seal 21 across the bottom of the lid compartment 20 as the seal 21 and lid compartment 20 rotate together to move the seal 21 against the cutter 32 to cause the seal 21 to be cut (compare FIGS. 5C, 6C, 7C and FIG. 8A)).

The opening action is illustrated in great detail in FIGS. 5-8. With reference to those figures, when the lid 12 is rotated in the unscrewing direction, the longitudinal rib 24 (located on

the exterior of the lid compartment 20) is moved into contact with the projecting deflection arm 34 of the cutter system on the interior of the sleeve 38. As the lid 12 rotates, the rib 24 pivots the deflection arm 34 on hinge 30 in the direction of arrow Z (see sequential FIGS. 5C, 6C, 7C where the movement is clearly shown). This movement of the arm 34 causes a likewise pivoting of the associated cutter 32 about hinge 30. The cutter 32 moves into contact with the openable seal 21(see FIGS. 6A, 6B, 6C). As the lid 12 is further rotated in the unscrewing direction, the cutter 32 is moved to further break or cut the seal 21 at or near the edge rim 22 of the compartment 20. Eventually, a sufficient portion of the seal 21 is cut, torn or detached (FIG. 8A) to allow a substance held in the compartment 20 to pass into the adjoining receptacle, so that mixing can commence.

Importantly, according to the present invention set forth in claims 28-47, the projection (which includes, in the illustrated preferred embodiment, the arm 34 with cutter 32, hinge 30, and flange 28) is adapted for association with the receptacle opening. In use, the projection (e.g., the structure of elements 34, 32, 30, 28) itself is caused to be moved into a position which opens the lid compartment 20.

--Wood Does Not Teach Or Suggest The Invention Set forth In Claims 28-47

Wood discloses a dispensing structure 10 for a container 12 which has an opening 14 to the container interior. The dispensing structure 10 includes a body 24 for extending around the container opening 14 and includes a membrane 30 for occluding the container opening 14. A cover 22 is disposed over the membrane 40 and is sealingly engaged with the body 24 to accommodate an axial sliding movement from an outer position to an inwardly displaced

position. The cover 22 defines a dispensing orifice and defines an edge 92 for severing at least part of the membrane 40 as the cover 22 is moved longitudinally from the outer position to the inwardly displaced position. The membrane 40 is first severed at the location where the cover edge 92 is lowest. As the cover 22 is moved further downwardly toward the membrane 40, the periphery of the membrane 40 is further severed. The full inwardly displaced position is shown in FIG. 7. As shown in FIG. 7, the membrane 40 is almost completely severed, with a small part of the membrane 40 remaining connected to the closure body 24. Any additive material 100 in the closure cover 22 falls into the container for mixing with the product 16 in the container.

In the conventional device according to Wood described above, the dispensing structure 10 has a distinctly different configuration compared to the construction of the invention as defined in the instant application independent claim 28, as amended. Specifically, the device according to Wood discloses neither a “projection” (e.g., the system that includes the movable arm/cutter 34/32) nor an “engagement means” (e.g., rib 24 on lid 12, 50, 54) which could be compared with the corresponding elements in the device according to the instant application claim 28.

In Wood, the feature which may be considered to be the “lid including a compartment” according to the instant application claim 28 is Wood lid 10 with a compartment defined by the annular wall 90. The Examiner might be initially suggesting that the “projection” according to the instant application claim 28 is the Wood edge 92/94/96 of the annular wall 90. However, that is a part of the closure, per se, and it is not “acted upon” by any engagement means, per se. Moreover, Wood does not disclose or teach the requirement according to the instant application

claim 28 that an “engagement means” is moved into contact with a projection when the lid is moved relative to the receptacle. At best, if one argues that the “projection” in Wood is the edge 92/94/06, then the Wood “projection” and the “engagement means” are one and the same, and therefore there are not two parts where one can act upon the other, as required by the instant application claim 28.

Furthermore, if we instead try to consider the edge 92/94/06 in Wood as being an “engagement means” alone, then there is no “projection” in Wood upon which the edge 92/94/06 is caused to act when the lid (cover) 22 is moved. Therefore, when starting from the disclosure or teaching of Wood, it is simply not possible to arrive at the subject matter set forth in the instant application claim 28.

As can be seen, there are at least two main differences between Wood and the instant application invention set forth in claim 28:

- (a) In Wood, the alleged “projection” or edge 90,92, which is moved into a position to open the compartment by severing the membrane 40, is not adapted for association with the receptacle 12, per se, at the receptacle opening as required by the instant application claim 28. Instead the projection 90, 92 in Wood is actually a part of the closure 10.

- (b) In Wood, there is no equivalent of any “engagement means” that is associated with the lid and which has the function of causing the alleged projection 90, 92 itself to be moved into a position to open the compartment 20. Instead, in Wood the entire closure

cover 22 (which includes the alleged projection 90, 92) must be moved downwardly toward the membrane 40 to sever it. In Wood, the projection is not acted on in some way by another component to cause the alleged projection itself to be moved. There is no disclosure of any “engagement means” which can independently move the alleged projection.

Because the separate “projection” feature and “engagement means” feature are not disclosed in Wood, the subject matter set forth in independent claim 28 and its dependent claims 29-47 is clearly novel in view of the cited prior art.

With respect to obviousness, there is no discussion in Wood of associating any alleged projection (e.g., the system in the instant application invention preferred embodiment that includes the movable arm 34 and cutter 32) with the container or receptacle opening, and Wood does not suggest any way of moving a projection itself into a position to open the compartment. Wood does not teach or suggest the advantages of the present invention.

Firstly, in the present invention, by associating the projection with the receptacle (including, for example, a sleeve 38 positioned in the mouth of the receptacle), and by causing the projection itself to be moved when in use, the lid or cover (which includes the compartment) can be of simpler construction in some respects than those of the prior art, such as Wood). In Wood, the cover has components which may require very tight size tolerances. The closure 10 in Wood therefore may be more complex to manufacture and may be of higher cost compared to the lid 12 of the present invention (see page 1, lines 20-27 of the present application).

Secondly, Wood teaches using a cutter which is a fixed part of the closure cover. In use this means that the entire closure cover 22 first needs to be moved downwardly to be able to open the compartment. This is a more complex operation because the cover 22 cannot be initially moved downwardly until the side wall strip 26 is first detached from the cover 22 to enable the entire cover 22 to then be pushed down with the closed lid to sever the membrane 40. Then, to access the contents in the Wood system, the lid 20 must be lifted upwardly to open.

In contrast, in the instant application present invention, a tear strip (e.g., 66, FIG. 1) is optional and is not required, and the lid 12 does not have to first be pushed down and then lifted up. For example, in the present invention first embodiment illustrated in FIGS. 1-9, after removing the optional tear strip 66 (if any), the lid 12 only needs to be unscrewed upwardly in one direction to both sever the compartment membrane 21 and remove the lid 21 using a one-step action--for which no consumer instruction is required (see page 19, lines 30-36 of the preset application). The inventive device set forth in the instant application claims 28-47 thus permits sequential opening of both (a) the internal additive substance-containing compartment, and (2) the entire package of the subsequently mixed contents--by moving the lid in only one given direction of rotation and only one given direction of axial displacement without ever requiring any reversal of the direction of rotation and of the direction of axial displacement.

Thirdly, in Wood it may be possible for the membrane 40 to become completely detached and fall into the container fluid 16, if the projection 90, 92 breaks the membrane 40 off entirely. This cannot happen with the preferred embodiment of the invention described in the instant

application because the device can be designed so that the cutter 32 never cuts completely around the edge of the membrane 21 (see page 12, line 28, to page 13, line 12 of the present application).

Wood does not disclose an apparatus with the advantages discussed above. A person of skill in the art of developing container closures would need to possess extraordinary inventiveness to be able to use Wood to deduce the special technical features of the invention set forth in the instant application claim 28 and its dependent claims 29-47.

--Morini Does Not Teach Or Suggest The Invention Set Forth In Claims 28-47

The Morini system suffers from some of the same disadvantages described above with respect to the above-discussed cited prior art patent to Wood. In particular, with the Morini system, the user must first screw cap 13 further onto the container and axially downwardly (from an initial, elevated position illustrated in FIG. 2 to a lowered, actuated position illustrated in FIG. 3), wherein the cutting element 11 extending from the underside of the cap 13 ruptures the bottom 4 of the capsule 3 containing an additive powder. Thereafter, in order to open the package, the cap 13 must be rotated in the unscrewing direction to lift the cap 13 upwardly, along with the cutting element 11 and capsule 3, out of the container 1. Thus, two different rotational motions are required to be used by the consumer to combine the powder contents with the container liquid and to open the container. In contrast, the novel device set forth in the instant application claims 28-47 does not require such a two-step action to first open the lid compartment and to then open the package completely. With the present invention, only a one-step operation is needed (as explained above in detail with respect to pointing out the differences between the present invention and the cited prior art Wood patent).

Further, the package in the cited prior art Morini patent lacks a number of the specific features explicitly set forth in the instant application amended independent claim 28 and its dependent claims 29-47. In Morini, there is no distinct “projection” (e.g., corresponding to the instant application projection-cutter system 34, 32, 30, 28), and there is no distinct “engagement means” (e.g., corresponding to the instant application rib 24). In this regard, if the cutting element 11 in Morini is considered to be the “projection” (i.e., because it is the component that ruptures the capsule), then where is the “engagement means” distinct from the projection that causes the projection to be moved into a position whereby it opens the compartment? There is none.

Morini does not disclose the apparatus with the advantages discussed above. At best, a person of skill in the art of developing container closures would need to possess extraordinary inventiveness to be able to use Morini to deduce these special technical features of the instant application invention set forth in the instant application independent claim 28 and its dependent claims 29-47.

--Kasuya Does Not Teach Or Suggest The Invention Set Forth In Clams 28-47

The cited prior art patent to Kasuya also wholly fails as an effective reference, and is even less relevant than the above-discussed cited prior art patents to Wood and Morini.

Kasuya, like Wood and Morini discussed above, also requires the consumer to employ a multiple-step process to first open the additive compartment, and to subsequently completely open the package to allow the package contents to be dispensed.

In Kasuya, the cap 100 includes a main body 110 having a storage tube 24 with a thin bottom 26 that can be cut open. Disposed within the cap main body storage tube 24 is the lower end 30 of a cutting tube 120. The bottom edge of the cutting tube lower end 30 has a sharp edge for cutting the thin bottom 26 of the storage tube 24. The upper end of the cutting tube 120 includes a radial flange 34 (incorrectly numbered on FIG. 2A of Kasuya, but correctly numbered on FIG. 2B of Kasuya), and the cutting tube radial flange 34 is adapted to engage a removable, U-shaped abutment or stopper 130.

In order to use the Kasuya package on which the cap 100 is mounted, the abutment or stopper 130 must first be laterally withdrawn by the user. Secondly, the cutting tube must be pushed downwardly to cut open the bottom 26 of the storage tube to allow the storage tube contents to drop into the container main body. Then, thirdly, the user must pull the cutting tube back upwardly and out of the storage tube 24 to allow dispensing of the package contents.

The Kasuya device employs a three-step process requiring the user to first effect a lateral movement of one component, then effect a downward pushing movement of a second component, and then effect an upward pulling movement of the second component. In contrast, the novel device set forth in the instant application claims 28-47 does not require such a multiple step action to open the lid component and then to open the package completely. Rather, the present invention permits the user to perform only a one-step process as explained in detail above with respect to pointing out the differences between the present invention and the cited prior art Wood patent.

Further, in Kasuya, there is no distinct “projection” (e.g., corresponding to the instant application projection-cutter system 34, 32, 30, 28), and there is no distinct “engagement means” (e.g., corresponding to the instant application rib 24). In this regard, if the Kasuya cutting tube 120 is considered to be the “projection” (i.e., because it is the part that ruptures the storage tube 24), then where is the “engagement means” distinct from the projection that causes the projection to be moved into a position whereby it opens the storage tube compartment? There is none.

Kasuya does not disclose the apparatus with the advantages discussed above. A person of skill in the art of developing container closures would need to possess extraordinary inventiveness to be able to use Kasuya to deduce these special technical features of the instant application invention set forth in the instant application independent claim 28 and its dependent claims 29-47.

--Shih Does Not Teach Or Suggest The Invention Set Forth In Claims 28-47

Shih, like Wood, Morini, and Kasuya discussed above, also requires the consumer to employ a multiple a multiple-step process to first open the additive chamber, and to subsequently completely open the package to allow the package contents to be dispensed.

More particularly, in Shih, the user must first remove the end cap 1. Secondly, the user must depress the handle 31 downwardly to move the bottom of the container 3 so that it is pierced by the toothed neck 41 of the tubular member 4 to cause the additive 30 in the container 3 to drop into the bottle 5. Thirdly, the user must unscrew the locking cap 2 to remove the internal tubular member 3 to allow dispensing of the mixed contents from the bottle 5.

The Shih device employs a three-step process requiring the user to move different components of the device in different directions. In contrast, the novel device set forth in the instant application claims 28-47 does not require such a multiple step action to first open the lid compartment and then open the package completely. Rather, the present invention permits the user to perform only a one-step process as explained above in detail with respect to pointing out the differences between the present invention and the cited prior art Wood patent.

Further, the device in Shih does not have a number of the specific features set forth in the instant application independent claim 28 and its dependent claims 29-47. First, note that the Shih lid (cap) 3 is stationary during opening of the container (compartment). The user does not rotate the lid 2 in Shih to open the additive-containing compartment--unlike in the instant application present invention wherein the user does move the lid to open the compartment containing the additive substance.

Further, in Shih, there is no distinct "projection," "engagement means," and "lid." In this regard, if the neck 41 in Shih is considered to be the "projection" (i.e., because it is the part that ruptures the bottom of the compartment container 3), then where is the "engagement means" distinct from the projection that causes the projection to be moved into a position whereby it opens the compartment? There is none.

If the Examiner were to argue that the Shih container 3 is the "engagement means," then where is the lid (including a compartment) which, when moved in a given direction relative to the receptacle, causes the engagement means to act on the projection such that the projection itself is moved into a position whereby it opens the compartment? There is none.

A person of skill in the art of developing container closures would need to possess extraordinary inventiveness to be able to use Shi to deduce these special technical features of the instant application invention set forth in the instant application independent claim 28 and its dependent claims 29-47.

THE CLAIMS 28-47 ARE ALLOWABLE

In summary, none of the cited art documents discloses such a configuration wherein the projection and the engagement means are distinct elements, and wherein, as set forth in the instant application amended claim 28, the lid is moved (e.g., rotated in the preferred embodiment) relative to the receptacle, whereby the

“...engagement means is caused to move into contact with, and act on, the projection such that the projection itself is moved into a position whereby it opens the compartment.”

For that reason, and for the other reasons discussed above, it is believed that independent claim 28, as amended, is allowable. Accordingly, withdrawal of the rejection of claim 28 is respectfully requested.

Dependent claims 29-47 are each dependent directly or indirectly upon the above-discussed independent claim 28. Therefore, each dependent claim includes all of the features of the independent claim 28 from which the dependent claim depends.

In addition, dependent claims 29-47 set forth other features not taught by the cited art. For these reasons, and for the reasons given above in arguing for the allowability of independent claim 28, the dependent claims are believed to be allowable also. Therefore,

withdrawal of the rejections of the claims 29-47, which are dependent upon claim 28, is respectfully requested.

--Independent Method Claim 38 Is Allowable

As amended, claim 48 sets forth an inventive method which includes the step of moving a lid in a given direction relative to a receptacle so that a projection--a projection that is associated with the receptacle and that has at least a movable portion--is itself moved by the lid into a position to open the compartment, and then continuing to move the lid in the given direction to effect further opening of the compartment.

As explained above with respect to claims 28-47, none of the prior art patents cited by the Examiner teaches the claimed "projection" associated with a receptacle, and none teaches the claimed operation of the projection as being moved by the lid. Those same prior art patents do not teach or suggest the novel method of employing a lid and projection as set forth in independent claim 48.

Accordingly, withdrawal of the rejection of claim 48, as amended, is respectfully requested.

--Independent Method Claim 49 And Its Dependent Claims 50-55 Are Allowable

As amended, independent claim 49 sets forth a method comprising the step of, inter alia, effecting unidirectional relative rotation between the lid and receptacle to effect axial movement of the lid to open the lid compartment, and continuing to effect unidirectional relative rotation between the lid and receptacle to subsequently effect removal of the lid from the receptacle.

As explained above in discussing the four cited prior art patents with respect to independent claim 28, it is very clear that the devices disclosed in each of the four cited prior art patents require a multi-directional movement process for opening the compartment and then opening the package. Specifically, in each of the devices disclosed in the four cited prior art documents, a component must be first pushed downwardly in an axially downward direction to open the interior compartment for dropping the additive into the container, and subsequently a component must be moved axially upwardly to completely open the package to allow the container contents to be dispensed. This requires the user to sequentially effect two different directional movements on the device components. Such a multi-step, multi-direction process is completely different from the unidirectional relative rotation set forth in independent claim 49 as amended and which effects opening of the internal compartment and subsequent removal of the lid without requiring the user to change the direction of rotation or the direction of axial movement.

In view of the above discussion, withdrawal of the rejection of independent claim 49, as amended, is respectfully requested.

Dependent claims 50-55 are each dependent directly or indirectly upon the above-discussed independent claim 49. Therefore, each dependent claim 50-55 includes all of the features on independent claim 49 from which the dependent claim depends.

In addition, the dependent claims 50-55 set forth other features not taught by the cited prior art. For these reasons, and for the reasons given above in arguing for the allowability of the amended independent claim 49, the dependent claims are believed to be allowable also.

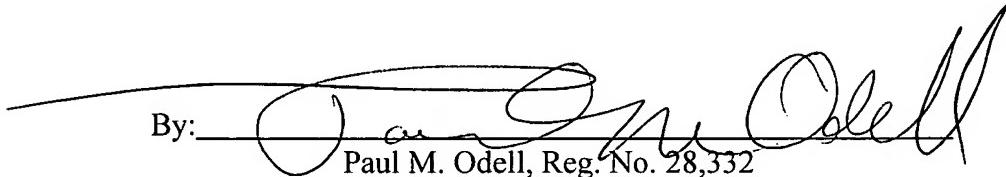
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Therefore, withdrawal of the rejections of claims 50-55, which are dependent upon claim 49, is respectfully requested.

It is believed that all of the claims in the application, as amended, are now in condition for allowance, and such action is earnestly solicited.

Further, it is believed that this entire application is now in condition for allowance, and such action is respectfully requested.

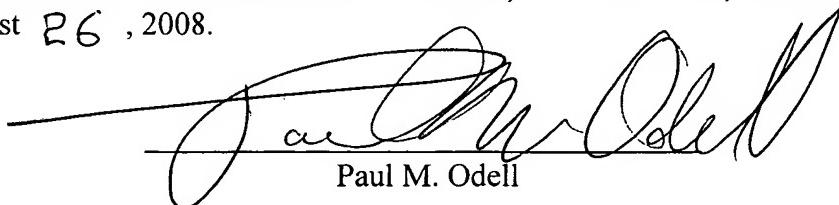
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